

## CLAIMS

1. A plant for compression moulding plastic articles by pressure-inserting a moulding punch into a cavity (11, 12) of a die (110, 120) loaded with a charge, comprising:
- 5 a plurality of shuttles (10) each carrying at least one die part (110),
- a moulding apparatus (20) which is provided with a plurality of punches and, for holding shuttles (10), a corresponding plurality of seats (21) arranged to receive and release the shuttles (10), and which pressure-inserts a punch into the die cavities (11, 12) of the shuttle (10) and
- 10 withdraws it to achieve a compression moulding cycle for the article,
- said shuttles (10) being independent of the moulding apparatus,
- characterised in that
- said shuttles (10) each comprise at least one circuit (15) for at least one fluid for conditioning the temperature of the article located in the die,
- 15 the moulding apparatus (20) comprising, for at least one conditioning fluid, at least one feed system (25) to feed the conditioning fluid to the shuttles (10) inserted in the seats (21) of the moulding apparatus (20).
2. A plant as claimed in claim 1, characterised in that said feed system (25) is connected to the shuttle seats (21) and comprises, in each shuttle
- 20 seat (21), means (23) enabling the fluid to communicate with the shuttle conditioning circuits (15), which means become connected to at least one

respective port (151) of said conditioning circuit (15) of a shuttle (10) when inserted into the seat (21).

3. A plant as claimed in claim 1, comprising, in addition to said moulding apparatus (20), at least one other apparatus (35, 50, 60) for  
5 treating plastic relative to the die parts (110) positioned on the shuttles (10) and having, for receiving and releasing the shuttles (10), a corresponding plurality of seats (38, 51, 61) able to hold individual shuttles (10),

said shuttles (10) being independent of the plastic treatment apparatus  
10 (35, 50, 60),

characterised in that:

said plastic treatment apparatus (35, 50, 60) comprises at least one further feed system for at least one conditioning fluid, which is connected to the shuttle seats (38, 51, 61) and comprises, in each shuttle seat (38,  
15 51, 61), means enabling the fluid to communicate with the shuttle conditioning circuits (15) and becoming connected to at least one respective port (151) of said conditioning system (15) of a shuttle (10) when inserted into the seat (38, 51, 61).

4. A plant as claimed in claim 1 or 3, characterised by comprising  
20 means to allow communication between each shuttle (10) and said at least one communication port (23) after inserting the shuttle (10) into the shuttle seat (21, 38, 51, 61) and to interrupt communication during those stages in which the shuttle is withdrawn from the seat.

5. A plant as claimed in claim 1 or 3, characterised in that each shuttle  
25 (10) comprises at least a second circuit for an operative fluid able to move

parts of the shuttle (10) and/or for another fluid having functions other than conditioning of the die (110, 120), and/or for forced air suction from the die (110, 120) or for other functions,

said apparatus (20, 35, 50, 60) comprising at least one respective

- 5 appropriate system for feeding said operative fluid, and/or another fluid, and/or for forced air suction, connected to the shuttle seats (21, 38, 51, 61), to feed said fluid to the shuttles (10) when inserted into the seats (21, 38, 51, 61) of the apparatus (20, 35, 50, 60).

6. A plant as claimed in claim 1, characterised in that:

- 10 said moulding apparatus (20) comprises, rotating about a central vertical axis, a turntable (22), on the outer periphery of which are positioned said shuttle seats (21),

the plant further comprising:

- a dispensing apparatus (30) having a rotating head (31) carrying a  
15 plurality of dispensing ports (32), each arranged to dispense a charge;
- a rotary transport means (35) associated with and lying below said dispensing head (31) and rotating in synchronism therewith, to move the shuttles (10) through an arcuate path coinciding with the path of the dispensing ports (32), such that the vertical axes of these latter  
20 substantially coincide with the axis of the underlying dies (110, 120);
- first transfer means (50) to transfer the shuttles (10) from the moulding apparatus (20) to the rotary transport means (35) associated with the dispensing machine (30);
- second transfer means (60) to transfer the shuttles (10) from the rotary  
25 transport means (35) associated with the dispensing machine to the moulding apparatus (20).

7. A plant as claimed in claim 6, characterised in that said first and/or second transfer means (50, 60) comprise respective transfer turntables provided with seats (51, 61) able to receive and release the shuttles (10).

8. A plant as claimed in claim 6, characterised in that said first transfer  
5 turntable (50) comprises a plurality of means (52) arranged to grasp the preforms, to separate them from the shuttles (10), and to release them to a preform evacuation means (55).